

RESEARCH INTEREST

My research interest is focused on **bridging the gap between the digital and physical worlds** by enhancing the **robustness, adaptability, and practicality** of **intelligent systems**.

EDUCATION

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| • M.S. in Electrical & Computer Engineering <i>University of Seoul</i> | <i>Mar. 2025 - Present</i> Seoul, South Korea |
| • B.S. in Electrical & Computer Engineering <i>University of Seoul</i> | <i>Mar. 2018 - Feb. 2025</i> Seoul, South Korea |
| • B.S. in Statistics <i>University of Seoul</i> | <i>Mar. 2018 - Feb. 2025</i> Seoul, South Korea |

EXPERIENCE

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| • Control and Dynamic Systems Lab, University of Seoul <i>Master Student, Undergraduate Research Intern</i> – Currently improving the differential dynamic programming algorithm. | <i>Jan. 2024 - Present</i> Seoul, South Korea |
| • Intelligent Robot Lab, University of Seoul <i>Undergraduate Research Intern</i> – Presented a paper review on the state-of-the-art MFA-Conformer in the speaker verification field at that time. | <i>Jan. 2023 - Feb. 2023</i> Seoul, South Korea |
| • Deep Learning Specilization Course by Andrew Ng, Coursera <i>5 courses</i> – Built neural network architectures such as CNNs, RNNs, LSTMs, Transformers. – Learned Dropout, BatchNorm and Xavier/He initialization. – Tackled real-world cases such as speech recognition, music synthesis, chatbots, machine translation, natural language processing and more. | <i>Dec. 2021 - Feb. 2022</i> Online |
| • Republic of Korea Defense Communication Command, Republic of Korea Air Force <i>Signalman, Squad Leader, Staff Sergeant</i> – Operated and maintained a robust Wide Area Communication System to facilitate efficient and secure communication across large geographic areas. – Led a squad of 12 members, ensuring effective communication, coordination, and mission accomplishment. – Discharged with the rank of staff sergeant. | <i>Sep. 2019 - Jun. 2021</i> Osan Air Base, South Korea |

PROJECTS

- Practical Problem Research Group 2025.** Research on heterogeneous control including reinforcement learning and model predictive control on 4 legged robots. Funded by Uniersity of Seoul. (*Aug. 2025 - Present*)
- Development of real-time vehicle dynamics learning and sharing technology for adaptive and predictable cooperative autonomous driving.** Research on developing a real-time dynamics learning for cooperative train driving. Joint research with Korea Railroad Research Institute. (*Apr. 2025 - Present*)

TECHNICAL SKILLS

Languages: English (B2), Korean (Native).

Programming: Python, R, SAS, C/C++, Java, C#, JavaScript.

Frameworks: PyTorch, TensorFlow.

PUBLICATIONS

- **[Paper] Sungjun Eom**, Gyunghoon Park, "Differential Dynamic Programming for the Optimal Control Problem with an Ellipsoidal Target Set and Its Statistical Inference " in 25th International Conference on Control, Automation and Systems (ICCAS) 2025.
- **[Paper] Jae-Seok Jang**, Bon-Jae Ku, **Sung-Jun Eom**, Ji-Hyeong Han, "Malware detection methodology through on pre-training and transfer learning for AutoEncoder based deobfuscation" in KIPS 2022.